

Application No. 09/498,303  
Amendment Dated November 20, 2003  
Reply to Examiner's Action of May 21, 2003

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

Claims 1-11 (canceled)

1       12. (Currently Amended) A method for etching oxide on a  
2       semiconductor substrate, comprising the steps of:  
3           producing a positive electrical charge on the oxide; and  
4           subsequent to the positive electrical charge production, exposing the  
5       previously positively charged oxide on the substrate to hydrofluoric acid  
6       vapor and water vapor in a process chamber held at temperature and  
7       pressure conditions that are controlled to form on the substrate no more than  
8       a saturated monolayer of etch reactants and products produced by the vapor  
9       as the oxide is etched by the vapor.

1       13. (Currently Amended) A method for etching oxide on a  
2       semiconductor substrate, comprising the steps of:  
3           producing a positive electrical charge on the oxide; and  
4           subsequent to the positive electrical charge production, exposing the  
5       previously positively charged oxide on the substrate to hydrofluoric acid  
6       vapor and methanol vapor in a process chamber held at temperature and  
7       pressure conditions that are controlled to form on the substrate no more than

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8 a saturated monolayer of etch reactants and products produced by the vapor  
9 as the oxide is etched by the vapor.

1 14. (Currently Amended) A method for etching oxide on a  
2 semiconductor substrate, comprising the steps of:  
3 producing a positive electrical charge on the oxide; and  
4 subsequent to the positive electrical charge production, exposing the  
5 previously positively charged oxide on the substrate to hydrofluoric acid  
6 vapor and isopropyl alcohol vapor in a process chamber held at temperature  
7 and pressure conditions that are controlled to form on the substrate no more  
8 than a saturated monolayer of etch reactants and products produced by the  
9 vapor as the oxide is etched by the vapor.

1 15. (Previously Presented) The method of any of claims 12, 13, or 14  
2 wherein the process chamber temperature and pressure conditions are  
3 controlled to form on the substrate no more than a sub-monolayer of etch  
4 reactants and products produced by the vapor as the oxide is etched by the  
5 vapor.

1 16. (Original) The method of any of claims 12, 13, or 14 wherein the  
2 positive electrical charge is produced on the oxide by exposure of the oxide to  
3 an electron beam.

1 17. (Currently Amended) The method of any of claims 12, 13, or 14  
2 wherein the positive electrical charge is produced on the oxide by exposure of  
3 the oxide to ultraviolet light through an electrically-biased metallic screen.

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1        18. (Currently Amended) The method of any of claims 12, 13, or 14  
2        wherein the positive electrical charge is produced on the oxide by exposure of  
3        the oxide to a plasma environment wherein the substrate is capacitively  
4        biased by a negative-polarity DC voltage.

1        19. (Currently Amended) A method for etching oxide on a  
2        semiconductor substrate, comprising the steps of:  
3            producing a negative electrical charge on the oxide; and  
4            subsequent to the negative electrical charge production, exposing the  
5        previously negatively electrically charged oxide on the substrate to  
6        hydrofluoric acid vapor and water vapor in a process chamber held at  
7        temperature and pressure conditions that are controlled to form on the  
8        substrate no more than a multilayer of etch reactants and products produced  
9        by the vapor as the oxide is etched by the vapor.

1        20. (Currently Amended) The method of claim 19 wherein the negative  
2        electrical charge is produced on the oxide by exposure of the oxide to a plasma  
3        environment wherein the substrate is capacitively biased by a  
4        RF voltage.

1        21. (Currently Amended) The method of claim 19 wherein the negative  
2        electrical charge is produced on the oxide by exposure of the oxide to a plasma  
3        environment wherein the substrate is capacitively biased by a positive-  
4        polarity DC voltage.

Claims 22-24 (Canceled)